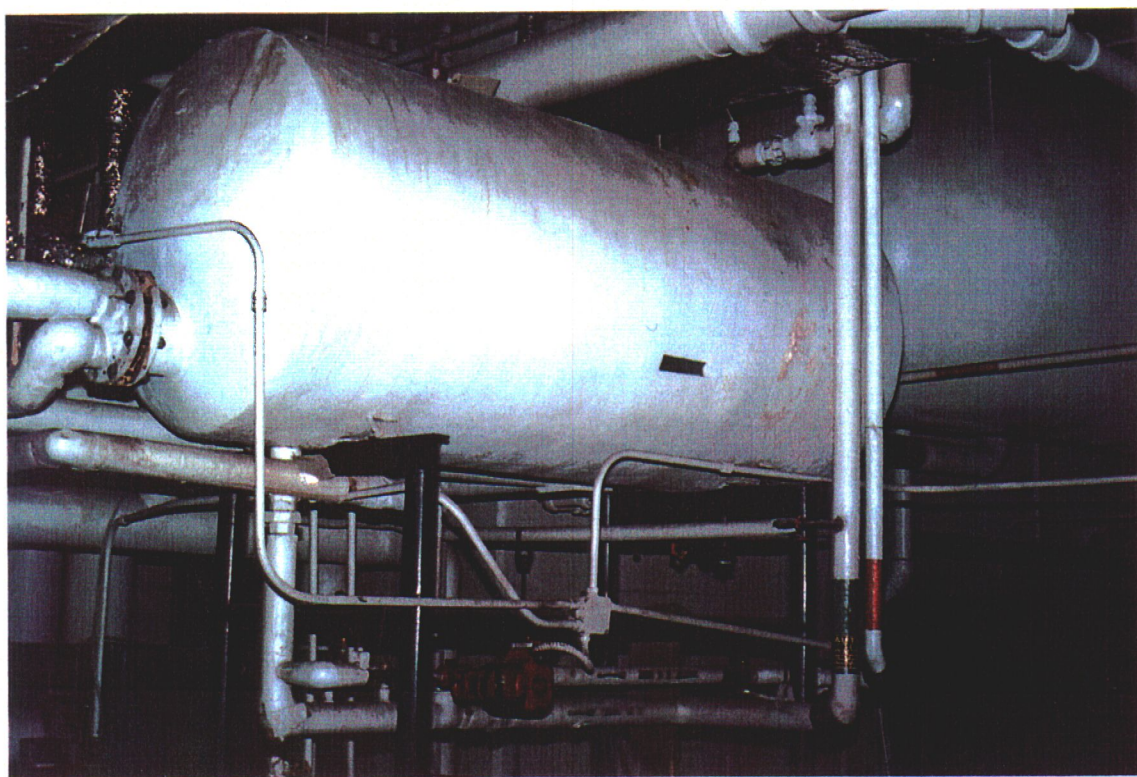


## BUILDING ENGINEERING REPORT

Building Name: Federal Building - 517 Gold Avenue SW  
Building No.: NM0024ZZ  
Location: Albuquerque, New Mexico



Domestic Hot Water System

## BUILDING ENGINEERING REPORT

Building Name:

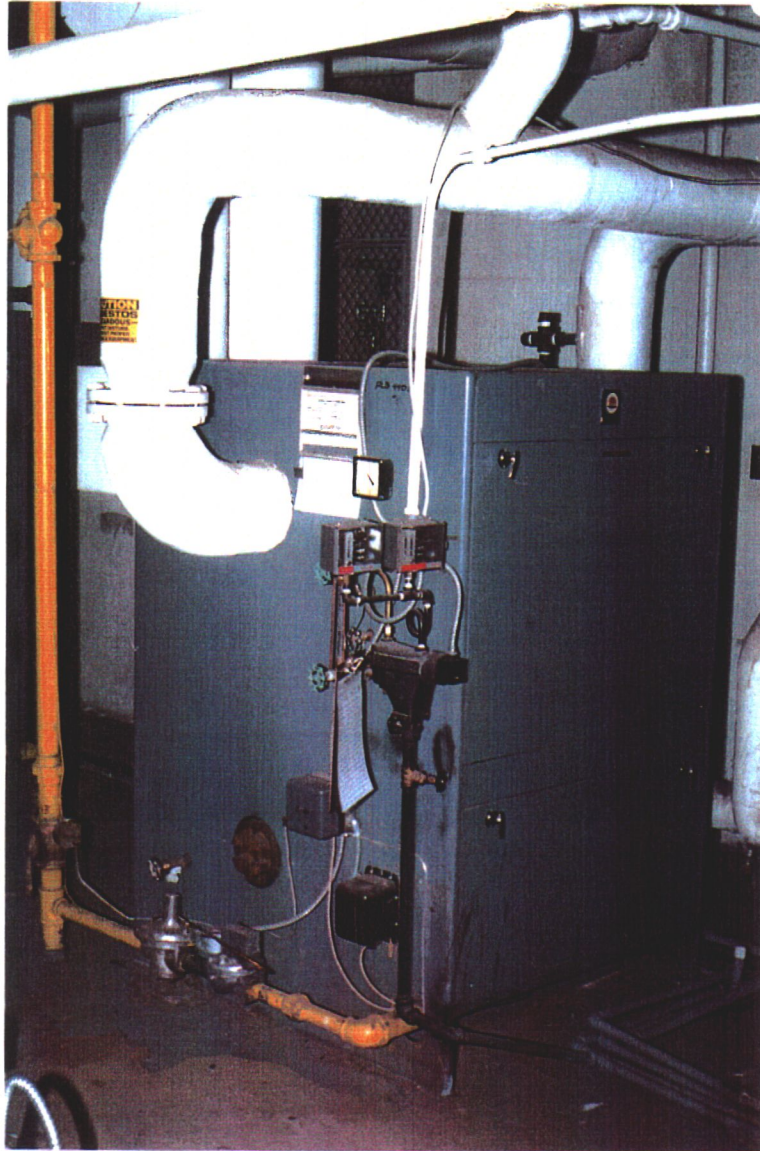
Federal Building - 517 Gold Avenue SW

Building No.:

NM0024ZZ

Location:

Albuquerque, New Mexico



Domestic Hot Water System

## BUILDING ENGINEERING REPORT (BER)

Building Name: Federal Building – 517 Gold Avenue SW

Building No.: NM0024ZZ

Location: Albuquerque, New Mexico

Number: 460.1B – Plumbing

Title: Practical Upgrade of Domestic Hot Water System  
(Hot Water Boiler)

### DETAILED COST ESTIMATE

| ITEM DESCRIPTION                   | QUANTITY     | UNIT      | UNIT COST | TOTAL COST |
|------------------------------------|--------------|-----------|-----------|------------|
| Removal of Existing                | 1            | LOT       | \$12,000  | \$12,000   |
| Storage Tanks 1,000 Gal.           | 2            | EA        | \$4,500   | \$9,000    |
| Heat Exchanger Bundles             | 2            | EA        | \$4,500   | \$9,000    |
| Water Boilers (Summer Units)       | 2            | EA        | \$3,500   | \$7,000    |
| Recirculating Pumps                | 2            | EA        | \$2,500   | \$5,000    |
| Gas Piping                         | 50<br>(15.2) | LF<br>(M) | \$16      | \$800      |
| Subtotal                           |              |           |           | \$42,800   |
| Mark-Up – 15% Contingency          |              |           |           | \$6,420    |
| Mark-Up – 18% Overhead and Profit  |              |           |           | \$7,704    |
| N.M. Gross Receipts Tax at 5.8125% |              |           |           | \$2,488    |
| Total E.C.C.                       |              |           |           | \$59,412   |
| Total E.C.C. (rounded)             |              |           |           | \$59,000   |

## BUILDING ENGINEERING REPORT (BER)

Building Name: Federal Building - 517 Gold Avenue SW  
Building No: NM0024ZZ  
Location: Albuquerque, New Mexico

WORK ITEM: Action required within 5 years X Action required within 5-20 years \_\_\_\_

Number: 460.2A - Plumbing

Title: Complete Upgrade of the Plumbing System

Cost: FY 94: \$645,000 FY 98: \$879,000

### DESCRIPTION:

The existing plumbing system consists of both cast iron and galvanized steel soil, waste and vent piping and a combination of copper and galvanized steel water piping in the building. The fixtures are 1960 vintage fixtures which have not been replaced in the building, and there is limited handicapped accessibility in accordance with the latest UFAS.

This work item includes replacement of all of the existing plumbing fixtures, water piping, and soil and vent piping for the facility. Fixtures will be replaced with new including, handicapped fixtures (water closets, urinals, lavatories, and electric water coolers) where required. This work item will also include new flush valves for the closets and urinals and new lavatory faucets. Also, the existing water piping to each of the toilet rooms, both hot and cold will be replaced with new copper piping (made with lead free solder) and the soil, waste and vent system will be replaced with new no-hub cast-iron piping.

### JUSTIFICATION:

The plumbing fixtures in this building are approximately 35 years old and are showing signs of their age. Also, there are no true handicapped accessible fixtures in the building, and any upgrade to the toilet rooms should include installation of fixtures for handicapped personnel. Also, the new flush valves for water closets and urinals will be 3 gallon devices, rather than the existing flush valves, which use approximately 4-1/2 to 5 gallons per flush. The faucets for the lavatories would be replaced with faucets having 3 GPM flow restrictors for water conservation.

### ASSOCIATED WORK ITEMS:

See Work Item 460.4 for Partitions and Finishes.  
See Work Item 616.2 for Restroom Vestibule Upgrades.  
See Work Item 460.2B and 460.2C for Optional Plumbing Work.

# BUILDING ENGINEERING REPORT (BER)

Building Name: Federal Building – 517 Gold Avenue SW  
 Building No.: NM0024ZZ  
 Location: Albuquerque, New Mexico  
 Number: 460.2A – Plumbing  
 Title: Complete Upgrade of Plumbing System

## DETAILED COST ESTIMATE

| ITEM DESCRIPTION            | QUANTITY       | UNIT      | UNIT COST | TOTAL COST |
|-----------------------------|----------------|-----------|-----------|------------|
| Removal of Existing         | 1              | LOT       | \$132,797 | \$132,797  |
| Water Closets               | 83             | EA        | \$825     | \$68,475   |
| Water Closets – Handicapped | 18             | EA        | \$851     | \$15,318   |
| Flush Valves                | 101            | EA        | \$120     | \$12,120   |
| Carrier                     | 101            | EA        | \$375     | \$37,875   |
| Urinals                     | 17             | EA        | \$700     | \$11,900   |
| Urinals – Handicapped       | 9              | EA        | \$700     | \$6,300    |
| Flush Valves                | 26             | EA        | \$120     | \$3,120    |
| Carrier                     | 26             | EA        | \$320     | \$8,320    |
| Lavatoriaies                | 52             | EA        | \$600     | \$31,200   |
| Faucets                     | 52             | EA        | \$120     | \$6,240    |
| Carrier                     | 52             | EA        | \$320     | \$16,640   |
| Lavatories – Handicapped    | 18             | EA        | \$750     | \$13,500   |
| Faucets                     | 18             | EA        | \$230     | \$4,140    |
| Carrier                     | 18             | EA        | \$320     | \$5,760    |
| Electric Water Coolers      | 9              | EA        | \$626     | \$5,634    |
| EWCS – Handicapped          | 9              | EA        | \$1,170   | \$10,530   |
| EWC Carriers                | 18             | EA        | \$320     | \$5,760    |
| Floor Drains                | 72             | EA        | \$150     | \$10,800   |
| 4" Soil Pipe                | 800<br>(243.8) | LF<br>(M) | \$19      | \$15,200   |
| 3" Soil Pipe                | 400<br>(121.9) | LF<br>(M) | \$16      | \$6,400    |
| 2"> Soil Pipe               | 400<br>(121.9) | LF<br>(M) | \$13      | \$5,200    |
| 2–1/2" Water Pipe           | 200<br>(61.0)  | LF<br>(M) | \$25      | \$5,000    |
| 2" Water Pipe               | 200<br>(61.0)  | LF<br>(M) | \$21      | \$4,200    |
| 1–1/2" Water Pipe           | 200<br>(61.0)  | LF<br>(M) | \$18      | \$3,600    |
| 1"> Water Pipe              | 400<br>(121.9) | LF<br>(M) | \$13      | \$5,200    |



## BUILDING ENGINEERING REPORT (BER)

Building Name: Federal Building – 517 Gold Avenue SW  
Building No.: NM0024ZZ  
Location: Albuquerque, New Mexico  
Number: 460.2A – Plumbing  
Title: Complete Upgrade of Plumbing System

### DETAILED COST ESTIMATE

| ITEM DESCRIPTION                   | QUANTITY     | UNIT      | UNIT COST | TOTAL COST |
|------------------------------------|--------------|-----------|-----------|------------|
| 2–1/2" Valves                      | 10<br>(3.0)  | LF<br>(M) | \$206     | \$2,060    |
| 2" Valves                          | 20<br>(6.1)  | LF<br>(M) | \$200     | \$4,000    |
| 1–1/2" Valves                      | 20<br>(6.1)  | LF<br>(M) | \$175     | \$3,500    |
| 1"> Water Valves                   | 40<br>(12.2) | EA<br>(M) | \$100     | \$4,000    |
| Subtotal                           |              |           |           | \$464,789  |
| Mark–Up – 15% Contingency          |              |           |           | \$69,718   |
| Mark–Up – 18% Overhead and Profit  |              |           |           | \$83,662   |
| N.M. Gross Receipts Tax at 5.8125% |              |           |           | \$27,016   |
| Total E.C.C.                       |              |           |           | \$645,185  |
| Total E.C.C. (rounded)             |              |           |           | \$645,000  |

## BUILDING ENGINEERING REPORT (BER)

Building Name: Federal Building - 517 Gold Avenue SW  
Building No: NM0024ZZ  
Location: Albuquerque, New Mexico

WORK ITEM: Action required within 5 years X Action required within 5-20 years \_\_\_\_

Number: 460.2B - Plumbing

Title: Practical Upgrade of Plumbing System

Cost: FY 94: \$287,000 FY 98: \$391,000

### DESCRIPTION:

Refer to Work Item 460.1A for description of the existing system.

This work item consists of replacing certain fixtures in the building with fixtures that are handicap accessible. This includes a number of water closets, urinals, lavatories and electrical water coolers. This work item also includes replacement of all of the domestic hot and cold water piping and soil, waste and vent piping serving the toilet rooms to the building.

### JUSTIFICATION:

There are no truly accessible toilet fixtures in the building for handicapped personnel. This work item would include fixtures in each of the toilet rooms to provide for handicapped accessibility. This work item also includes three gallon per flush, flush valves and the three gallon per minute flow restrictors on the lavatory faucets for water conservation.

### ASSOCIATED WORK ITEMS:

See Work Item 460.4 for Partitions and Finishes.  
See Work Item 616.2 for Restroom Vestibule Upgrades.  
See Work Item 460.2A and 460.2C for Optional Plumbing Work.

# BUILDING ENGINEERING REPORT (BER)

Building Name: Federal Building – 517 Gold Avenue SW

Building No.: NM0024ZZ

Location: Albuquerque, New Mexico

Number: 460.2B – Plumbing

Title: Practical Upgrade of Plumbing System  
Replace Flush Valves, Faucets, Piping, Install Handicap Fixtures

## DETAILED COST ESTIMATE

| ITEM DESCRIPTION            | QUANTITY       | UNIT      | UNIT COST | TOTAL COST |
|-----------------------------|----------------|-----------|-----------|------------|
| Removal of Existing         | 1              | LOT       | \$59,159  | \$59,159   |
| Water Closets – Handicapped | 18             | EA        | \$851     | \$15,318   |
| Flush Valves                | 101            | EA        | \$120     | \$12,120   |
| Carrier                     | 18             | EA        | \$375     | \$6,750    |
| Urinals – Handicapped       | 9              | EA        | \$700     | \$6,300    |
| Flush Valves                | 26             | EA        | \$120     | \$3,120    |
| Carrier                     | 9              | EA        | \$320     | \$2,880    |
| Faucets                     | 52             | EA        | \$120     | \$6,240    |
| Lavatories – Handicapped    | 18             | EA        | \$750     | \$13,500   |
| Faucets                     | 18             | EA        | \$230     | \$4,140    |
| Carrier                     | 18             | EA        | \$320     | \$5,760    |
| EWCS – Handicapped          | 9              | EA        | \$1,170   | \$10,530   |
| EWC Carriers                | 9              | EA        | \$320     | \$2,880    |
| 4" Soil Pipe                | 800<br>(243.8) | LF<br>(M) | \$19      | \$15,200   |
| 3" Soil Pipe                | 400<br>(121.9) | LF<br>(M) | \$16      | \$6,400    |
| 2"> Soil Pipe               | 400<br>(121.9) | LF<br>(M) | \$13      | \$5,200    |
| 2–1/2" Water Pipe           | 200<br>(61.0)  | LF<br>(M) | \$25      | \$5,000    |
| 2" Water Pipe               | 200<br>(61.0)  | LF<br>(M) | \$21      | \$4,200    |
| 1–1/2" Water Pipe           | 200<br>(61.0)  | LF<br>(M) | \$18      | \$3,600    |
| 1"> Water Pipe              | 400<br>(121.9) | LF<br>(M) | \$13      | \$5,200    |
| 2–1/2" Valves               | 10<br>(3.0)    | LF<br>(M) | \$206     | \$2,060    |



# BUILDING ENGINEERING REPORT (BER)

Building Name: Federal Building -- 517 Gold Avenue SW  
Building No.: NM0024ZZ  
Location: Albuquerque, New Mexico

Number: 460.2B -- Plumbing

Title: Practical Upgrade of Plumbing System  
Replace Flush Valves, Faucets, Piping, Install Handicap Fixtures

## DETAILED COST ESTIMATE

| ITEM DESCRIPTION                   | QUANTITY | UNIT | UNIT COST | TOTAL COST |
|------------------------------------|----------|------|-----------|------------|
| 2" Valves                          | 20       | LF   | \$200     | \$4,000    |
|                                    | (6.1)    | (M)  |           |            |
| 1-1/2" Valves                      | 20       | LF   | \$175     | \$3,500    |
|                                    | (6.1)    | (M)  |           |            |
| 1"> Water Valves                   | 40       | EA   | \$100     | \$4,000    |
|                                    | (12.2)   | (M)  |           |            |
| Subtotal                           |          |      |           | \$207,057  |
| Mark-Up -- 15% Contingency         |          |      |           | \$31,059   |
| Mark-Up -- 18% Overhead and Profit |          |      |           | \$37,270   |
| N.M. Gross Receipts Tax at 5.8125% |          |      |           | \$12,035   |
| Total E.C.C.                       |          |      |           | \$287,421  |
| Total E.C.C. (rounded)             |          |      |           | \$287,000  |

## BUILDING ENGINEERING REPORT (BER)

Building Name: Federal Building - 517 Gold Avenue SW  
Building No: NM0024ZZ  
Location: Albuquerque, New Mexico

WORK ITEM: Action required within 5 years X Action required within 5-20 years   

Number: 460.2C - Mechanical and Plumbing

Title: Practical Upgrade of Existing Plumbing Fixtures Only

Cost: FY 94: \$174,00 FY 98: \$237,000

### DESCRIPTION:

Refer to Work Item 460.1A for description of the existing system.

This work item includes replacement of certain plumbing fixtures in the building and installation of new plumbing fixtures for handicapped accessibility. The work item also includes installation of new flush valves and faucets for each of the plumbing fixtures in the building. This work item, however, does not include major replacement of any of the piping systems, only replacement of local piping around the new plumbing fixtures.

### JUSTIFICATION:

This facility has no handicapped accessible plumbing fixtures. This work item would include fixtures in each of the toilet rooms to provide for handicapped accessibility. This work item also includes three gallon per flush, flush valves and the three gallon per minute flow restrictors on the lavatory faucets for water conservation.

### ASSOCIATED WORK ITEMS:

See Work Item 460.4 for Partitions and Finishes.  
See Work Item 616.2 for Restroom Vestibule Upgrades.  
See Work Item 460.2A and 460.2B for Optional Plumbing Work.